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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,237	10/31/2001	Yong Kyun Cho	P-9957.00	2097
27581	7590	12/01/2004		
			EXAMINER	
			SMITH, RUTH S	
			ART UNIT	PAPER NUMBER
			3737	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/004,237	CHO ET AL.	
	Examiner Ruth S Smith	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 17 November 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 2-6,8-13 and 15-25 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 2-6,8-13 and 15-25 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 17, 2004 has been entered.

***Claim Rejections - 35 USC § 112***

Claims 2-6,8-13,15-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, fails to disclose sensing of cardiac activity will not occur in the presence of "typical relatively low-energy electromagnetic interference". Furthermore, it is unclear as to what energy level would be defined by such terminology.

Claims 2-6,8-13,15-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear as to what energy level would be defined by the terminology of "typical relatively low-energy electromagnetic interference".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 3737

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2,4-6,8,9,11-13,15,17-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prutchi et al (WO 99/37360) in view of Hartlaub et al ('764). Prutchi et al disclose an implantable cardiac stimulator/pacemaker having a safe noise mode. The device includes means for detecting the presence of an electromagnetic interference signal, a switching device for switching from a first sensing mode using electrodes 110,120,140,150 and sensors 162,164, to the safe noise mode which uses sensor 172 when the interference signal is above a certain level. Hartlaub et al discloses control of externally induced current in implantable medical devices where the current can be induced by EMI signals emitted from an MRI system. It is well known in the art that one possible cause of electromagnetic interference signals is due to MRI system operation as taught for example by Hartlaub et al (see column 3, lines 50-64). Hartlaub et al further discloses means for protecting the implantable device from interference by an interference signal by opening a case switch for the implantable device (as disclosed by applicant on page 13 of the specification). Therefore, it would have been obvious to one skilled in the art that the device of Prutchi et al would respond to MRI interference signals as it would to any other type of known EMI signals. Furthermore, it would have been obvious to have modified Prutchi et al such that it includes means for opening the case switch for the implantable device in order to further

protect the device from interference caused by the interference signal. With respect to claim 9, in the absence of any showing of criticality, the threshold level selected would have been an obvious selection to one skilled in the art without undue experimentation at a level that would not affect operation of the device. With respect to claims 20-25, the parameters set forth are well known fields and field strengths of an MR system and one detecting the presence of interfering signals from an MR system would detect signals having such parameters.

Claims 3,10,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prutchi et al in view of Hartlaub et al ('764) as applied to claims 2,8,15 above, and further in view of Silvian et al or Ehnholm et al. Silvian et al and Ehnholm et al each disclose that a Hall Effect sensor is a well known type of magnetic field sensor. It would have been obvious to one skilled in the art to have further modified Prutchi et al such that the sensor used to detect the MRI interference signal is a Hall Effect sensor. Such a modification merely involves the substitution of one well known type of magnetic field sensor for another.

#### ***Response to Arguments***

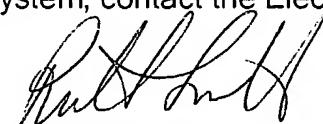
Applicant's arguments filed November 17, 2004 have been fully considered but they are not persuasive. Applicant's arguments are not understood in that applicant does disclose that magnetic resonance devices produce electromagnetic interference signals and it appears that those disclosed by Hartlaub which are EM interference be by an MRI system, are not considered to be "relatively low-energy signals" in that Hartlaub discloses interference signals caused by "significant level of a time-alternating electromagnetic field".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth S Smith whose telephone number is (571) 272-4745. The examiner can normally be reached on M-F 5:30 AM- 2:00 PM.

Art Unit: 3737

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (703) 308-3552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ruth S Smith  
Primary Examiner  
Art Unit 3737

RSS